

Innovation in Mediterranean forests

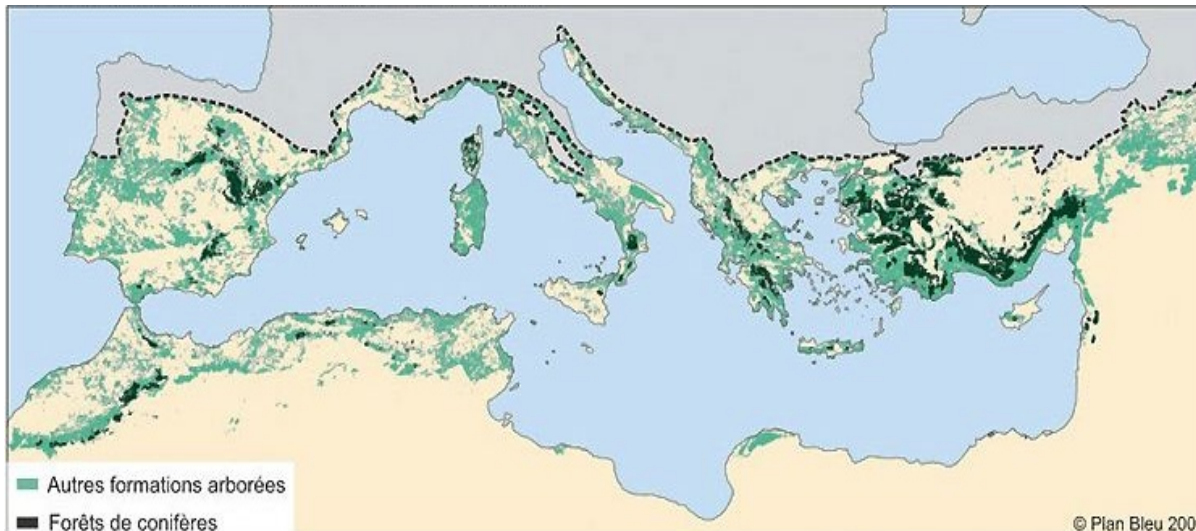
or how to scape the paradox

Inazio Martinez de Arano
EFIMED

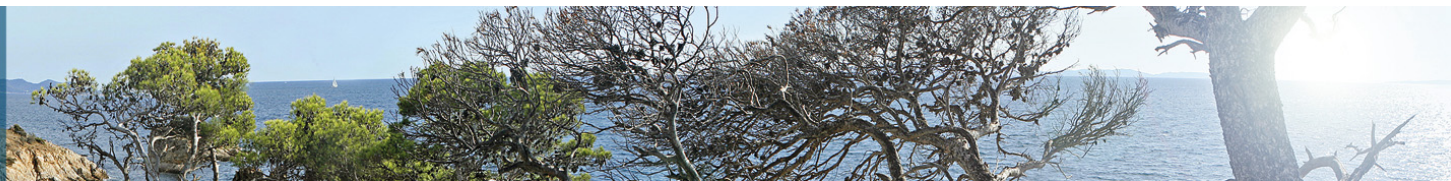
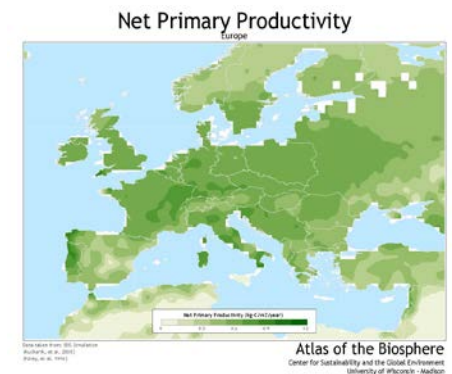


Mediterranean Forests

80 M ha (9% land)



Water limited
High altitudinal gradients
Shaped by fire
Low productivity
High biodiversity
Oak/pines/eucalypts





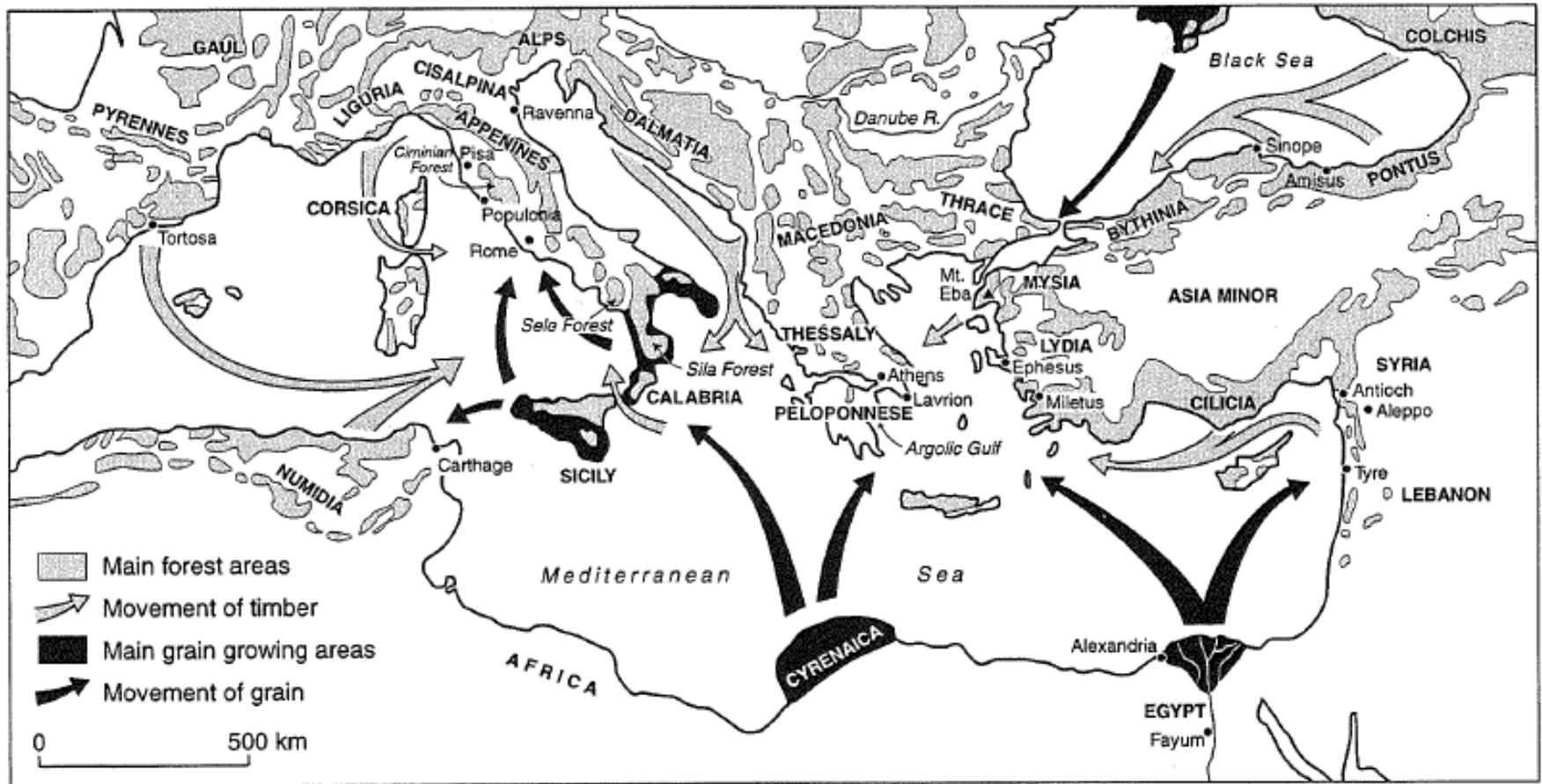
Mediterranean Forest are complex *socio-ecosystems*

Castello del Buonconsiglio, Trento in year 1,400.
Wenceslas Cobergher

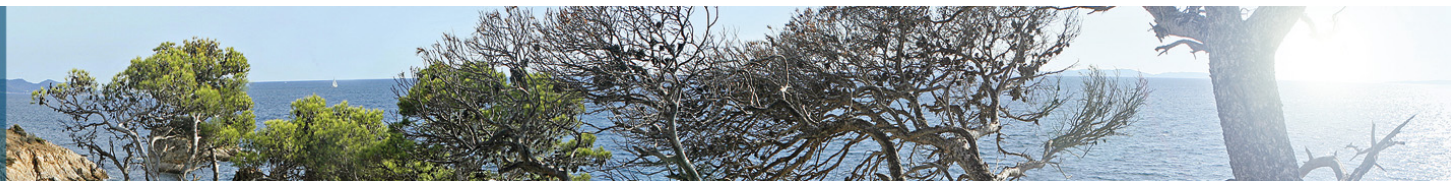




Mediterranean Forests: a source of richness

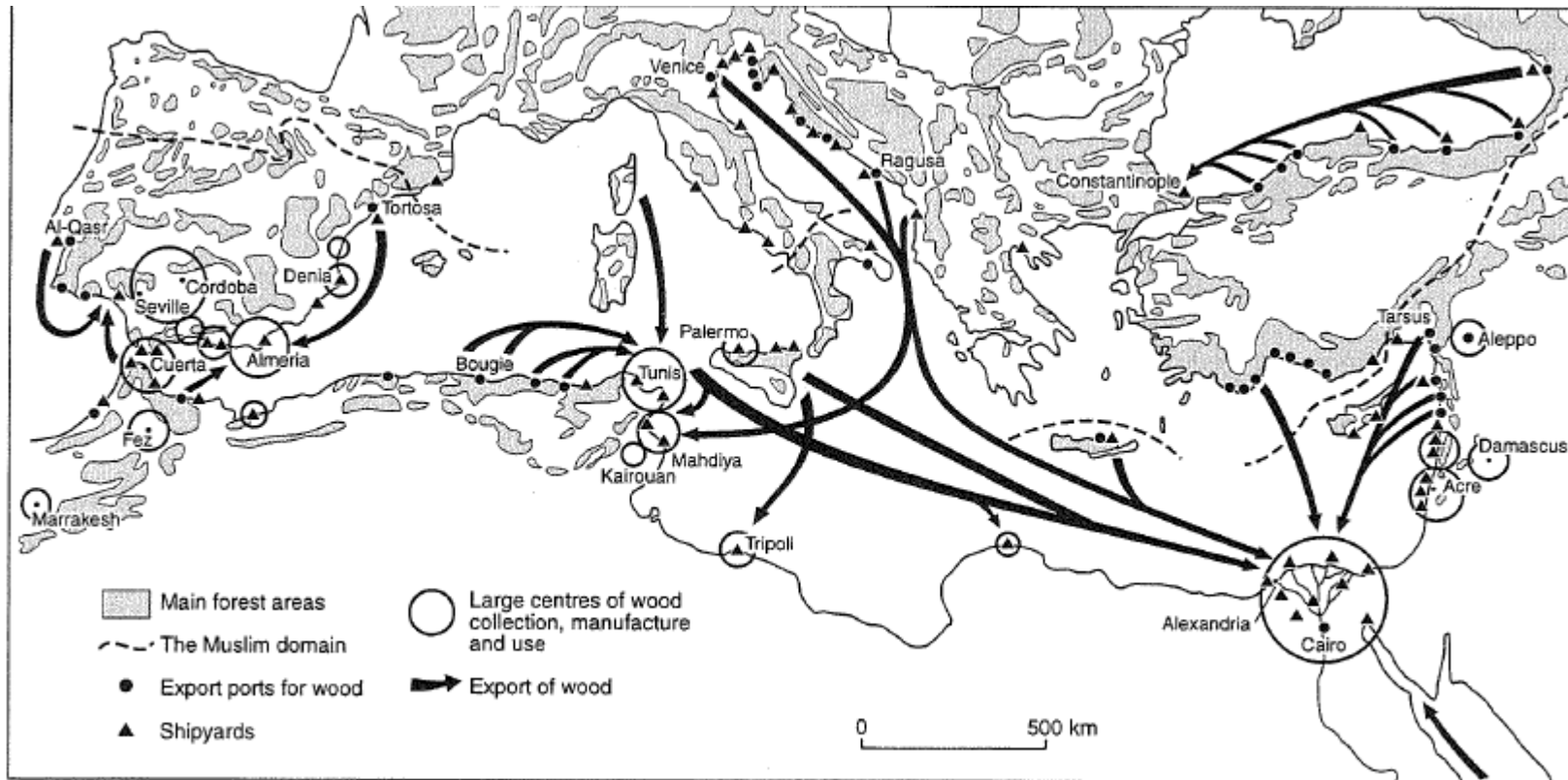


Wood trade in the mediterranean IV-I Century BC. (cited in M. Williams 2013)

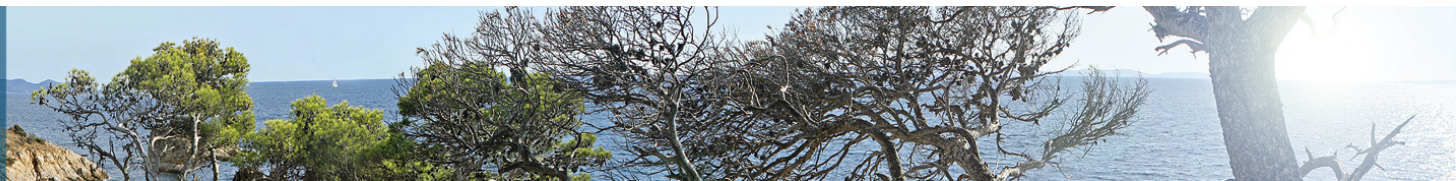




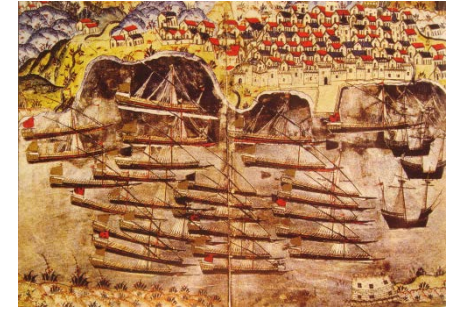
Mediterranean Forests:



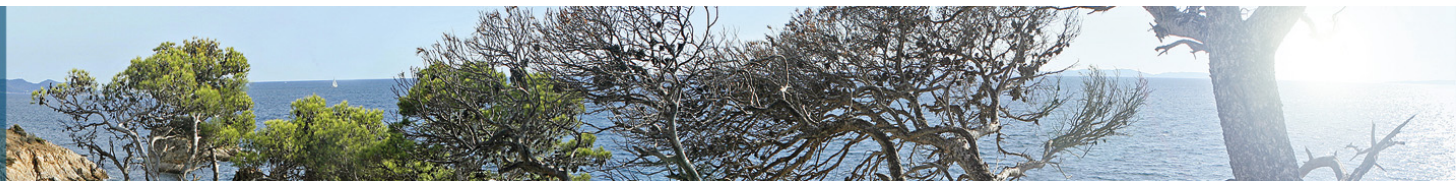
Timber trade in medieval Muslime Mediterranean VII-XI siecles. (cited in M. Williams 2013)



Mediterranean Forests: resilient and productive



The Siege of Nice by Khayr ad-Din in 1543 Matrakci Nasu, 16th century





Deforestation peaked after the industrial revolution with long lasting ecological and cultural consequences.

Almost a quarter of Morocco's forests (10,000 km²) vanished between during the *protectorate* in the XX century.

In the Tunisian mountains, forest cover shrank by one-third between 1919 and 1960

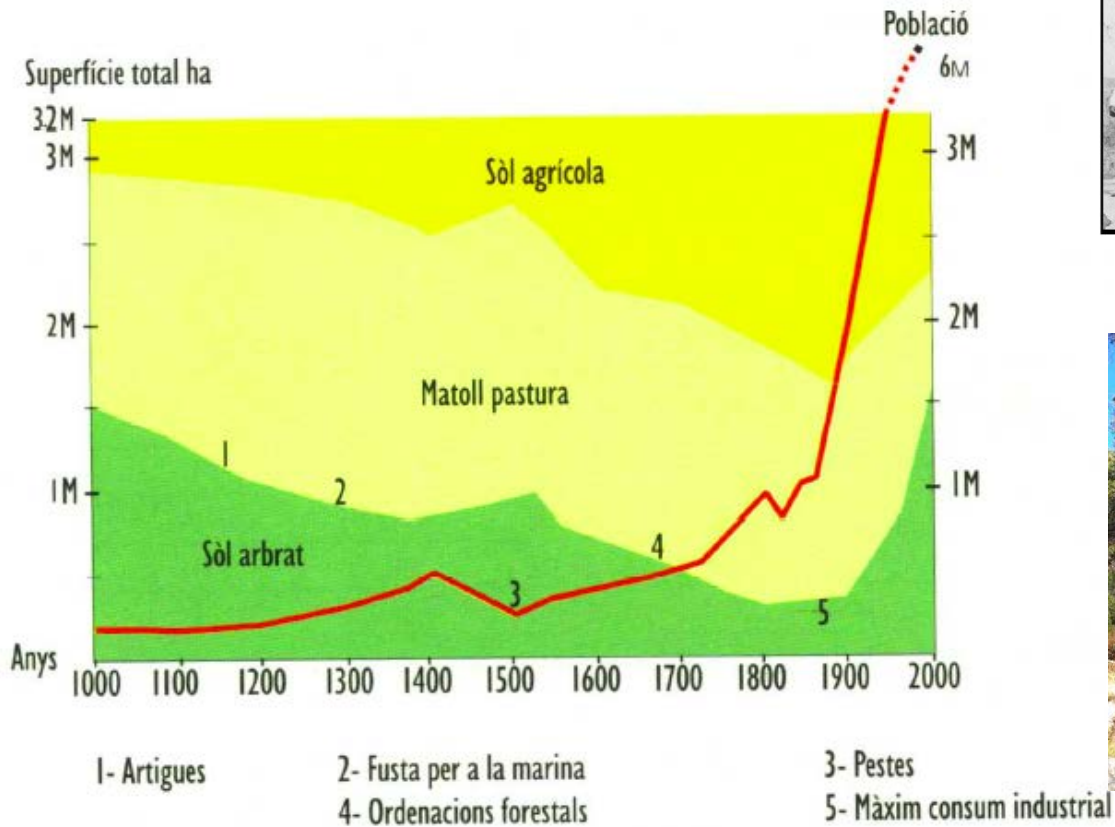
(Brandt and Thornes 1996).



G. Agricola. A philosophical treatise on husbandry 1721



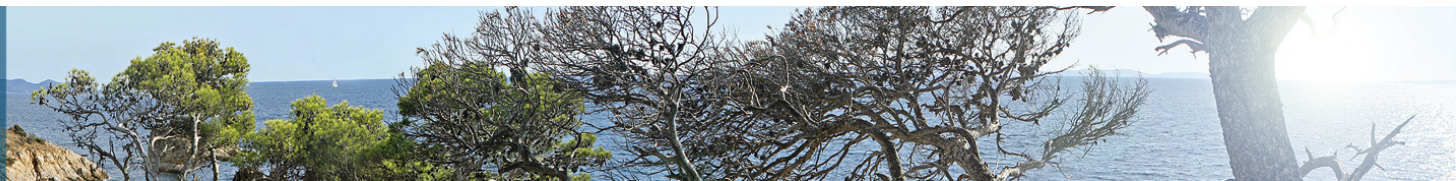
Food for thought





Mediterranean Forest in the cross-road

- Globalisation
- Societal change
- Low carbon economy
- Climate change
- Biodiversity
- wellbeing



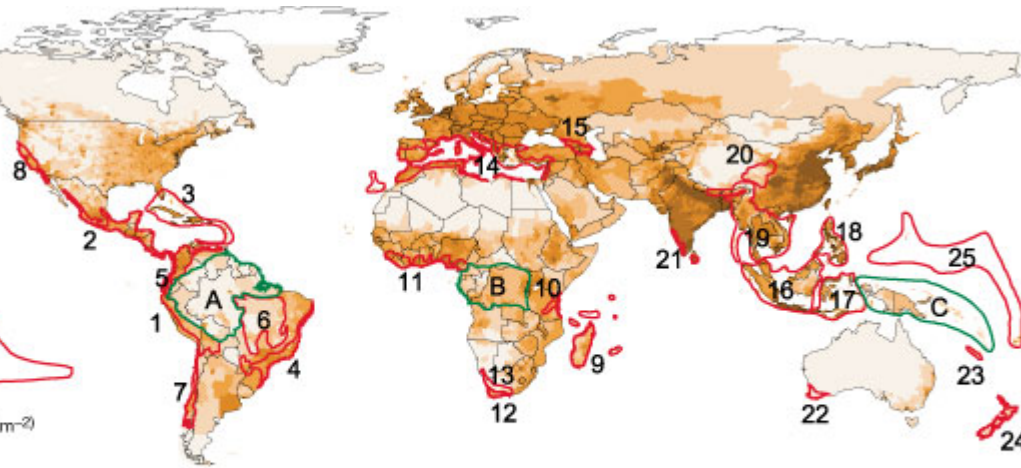


The Paradox:
**as Mediterranean forests become
increasingly valuable, our societies are
less able to materialise those values
and manage them sustainably”**

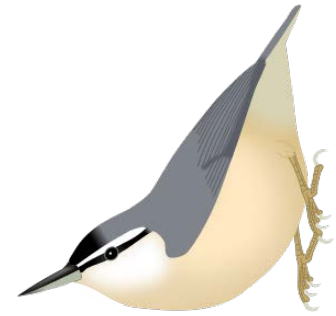


Forestry in across-road

- Biodiversity Conservation



Wilderness areas
Biodiversity hotspots



Algerian nuthatch (*Sitta ledanti*)



Levallant's woodpecker (*Picus vaillantii*)

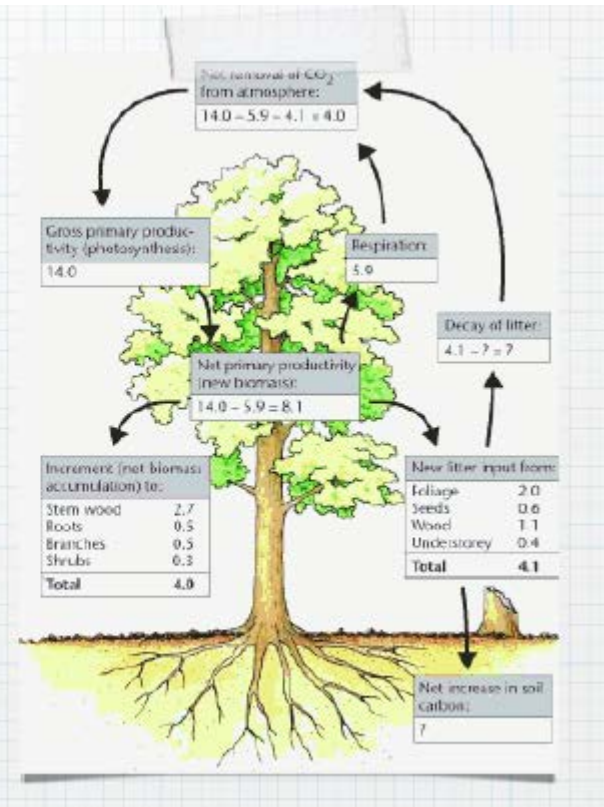


Forestry in across-road

- Climate Change: « *The bioeconomy* »

Mitigation bio-economy

- * Carbon sequestration
- * Biomaterials
- * Bioenergy

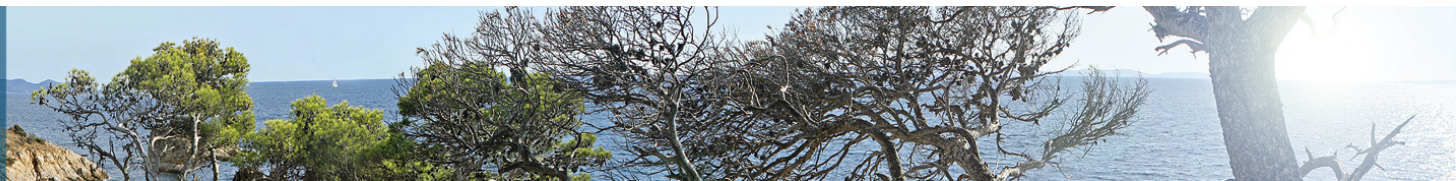


Forestry in across-road

- Globalisation, population growth, consumption

- * Production moves to the **SOUTH**
- * Manufacturing moves East
- + * Demand moves East
- * Forest Sector loses weight in trade
- * **EUROPE** loses centrality

Low profitability of forestry

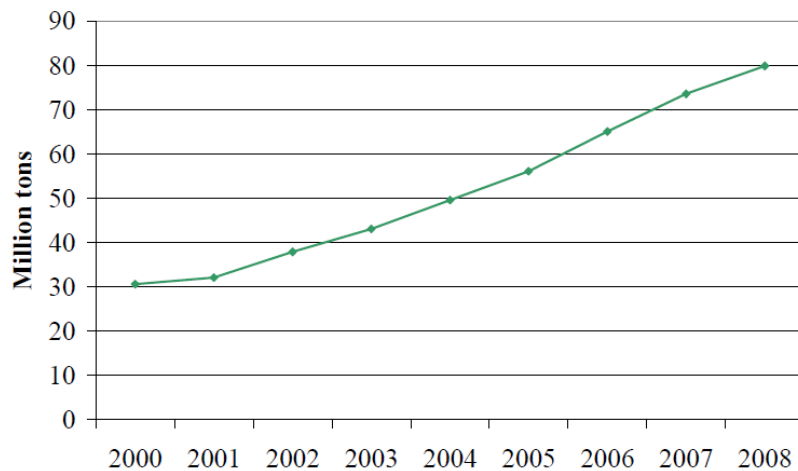


Forestry in across-road

- Globalisation, population growth, consumption

GRAPH 4.3.1

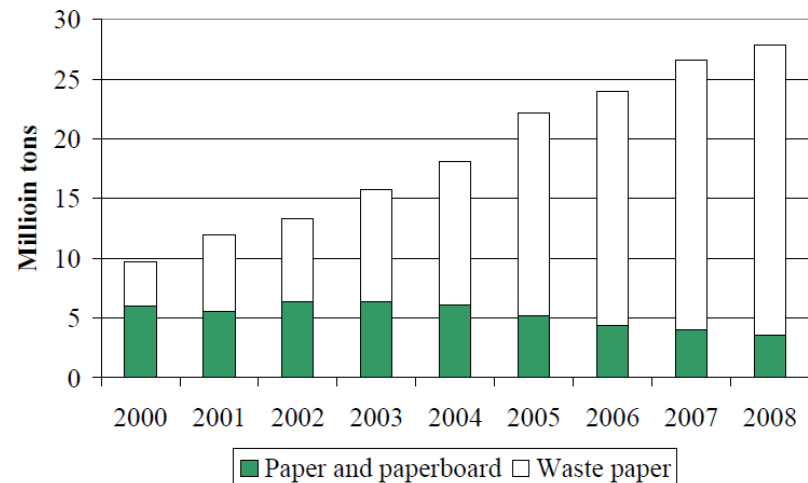
China's production of paper and paperboard, 2000-2008



Source: China Paper Association, 2009.

GRAPH 4.3.3

China's imports of paper and paperboard (including waste paper), 2000-2008

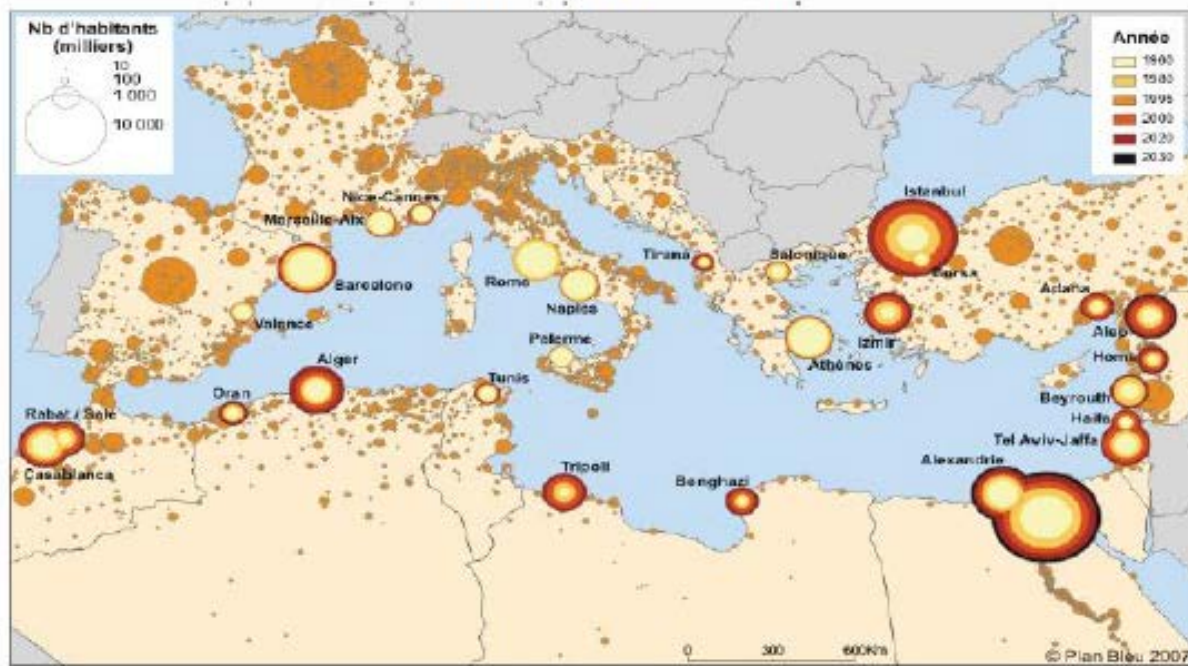


Source: China Paper Association, 2009.

Mediterranean Forests: societal change

- High population (480 Million inhabitants)
- 66% of people lives in cities
- 30% of world tourism!!

Projected urban population by 2030



Urban populations can affect distant forests.

- demand for **wood-fuel**
- **water**, food
- waste disposal and
- **Recreation**
- **Well-being**

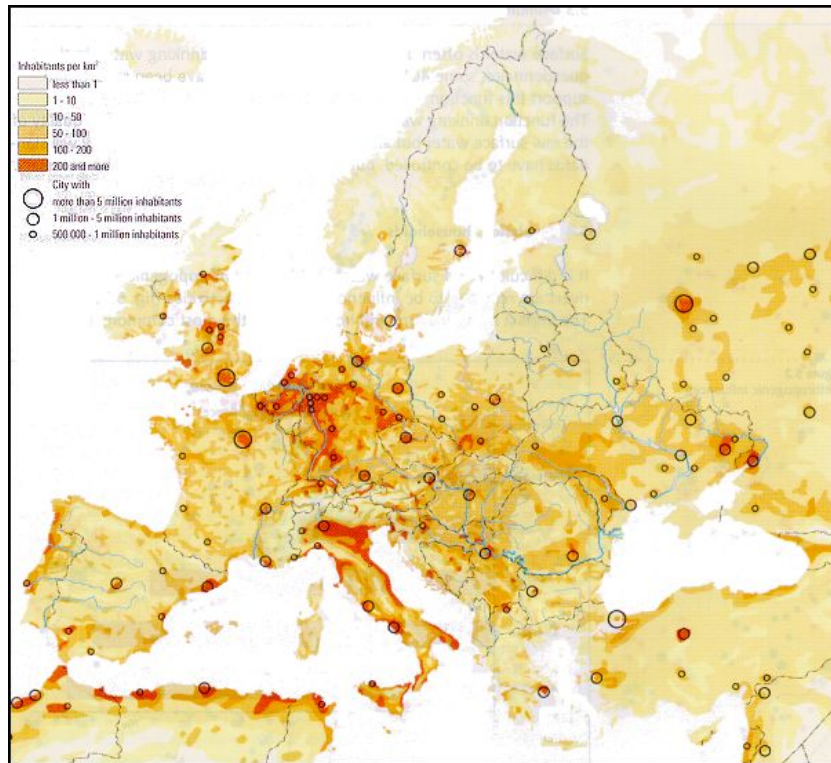
Myers 1994



Mediterranean Forests: human pressure

Rural abandonment in the north

Growing rural populations in the south



Low density rural population can affect forests.

- **Burning**
- **Grazing**
- **Mining...**

Stedman-Edwards 1997

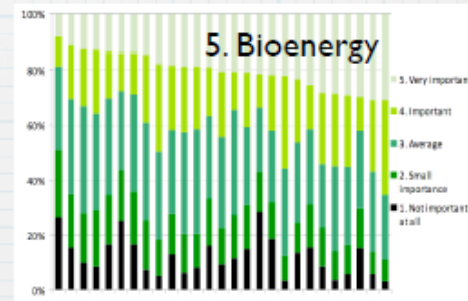
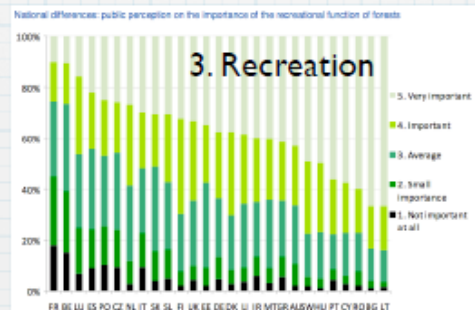
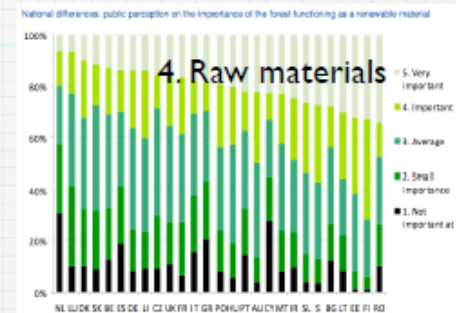
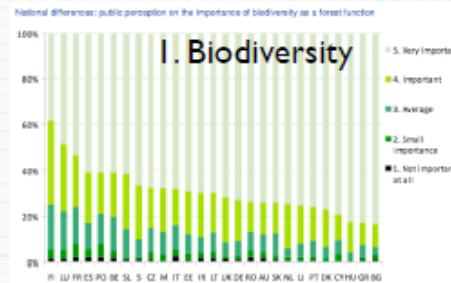


Forestry in the cross-roads: social values

Social Change

* Society favors environmental services

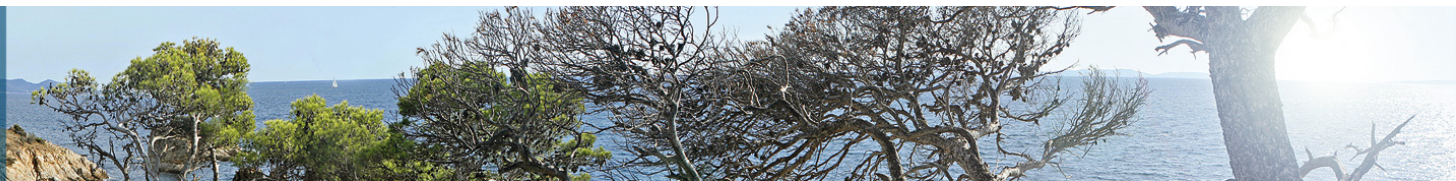
Forest should be managed for...



license to operate,

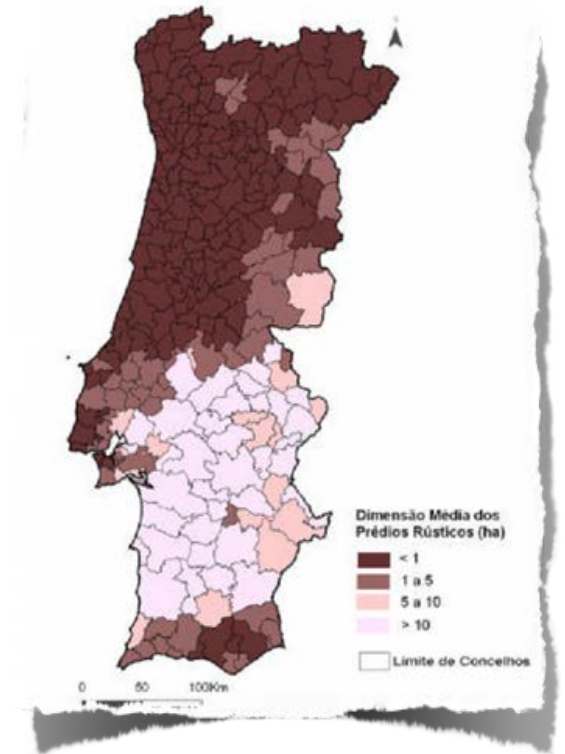
license to PES

Consume behaviour





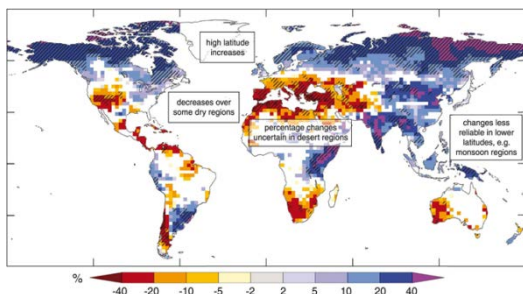
Mediterranean Forests: Fragmentation



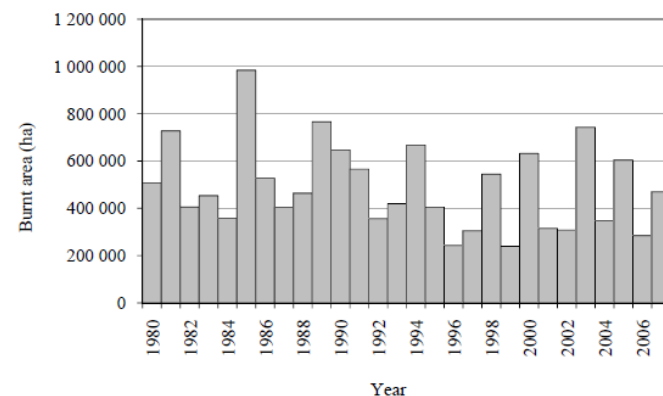
Castilla and Leon
1.000.000 owned by 700.000
thousen owners



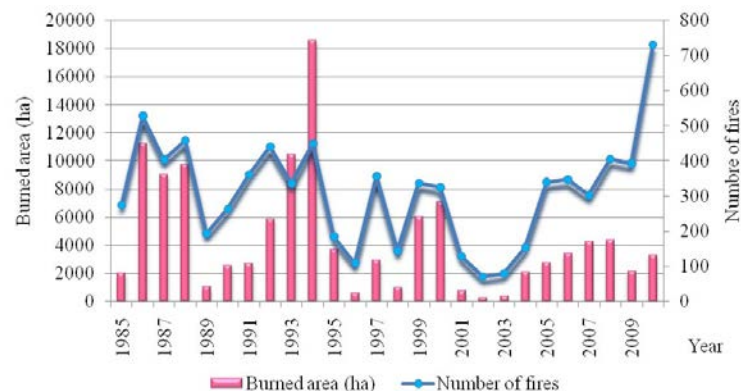
Climate change adaptation



Trend: area burnt in WE



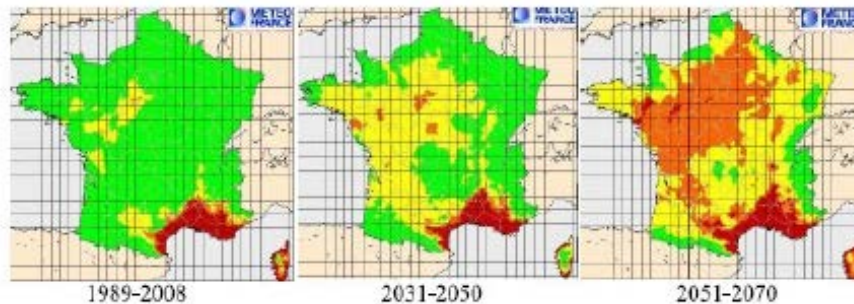
Trend: area burnt in Argelia





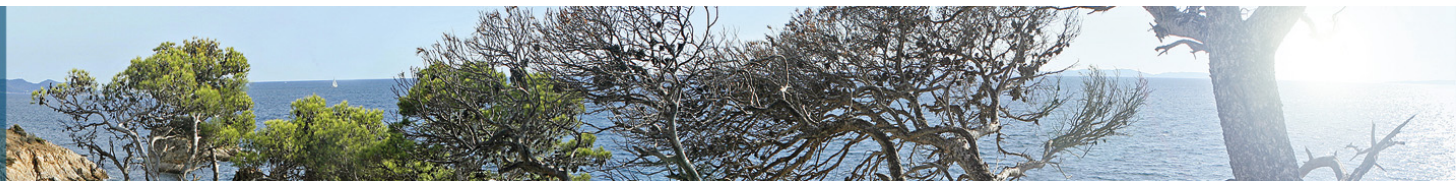
... and in the near future?

- France has calculated that it needs to increase 20% the fire suppression budget by 2040.



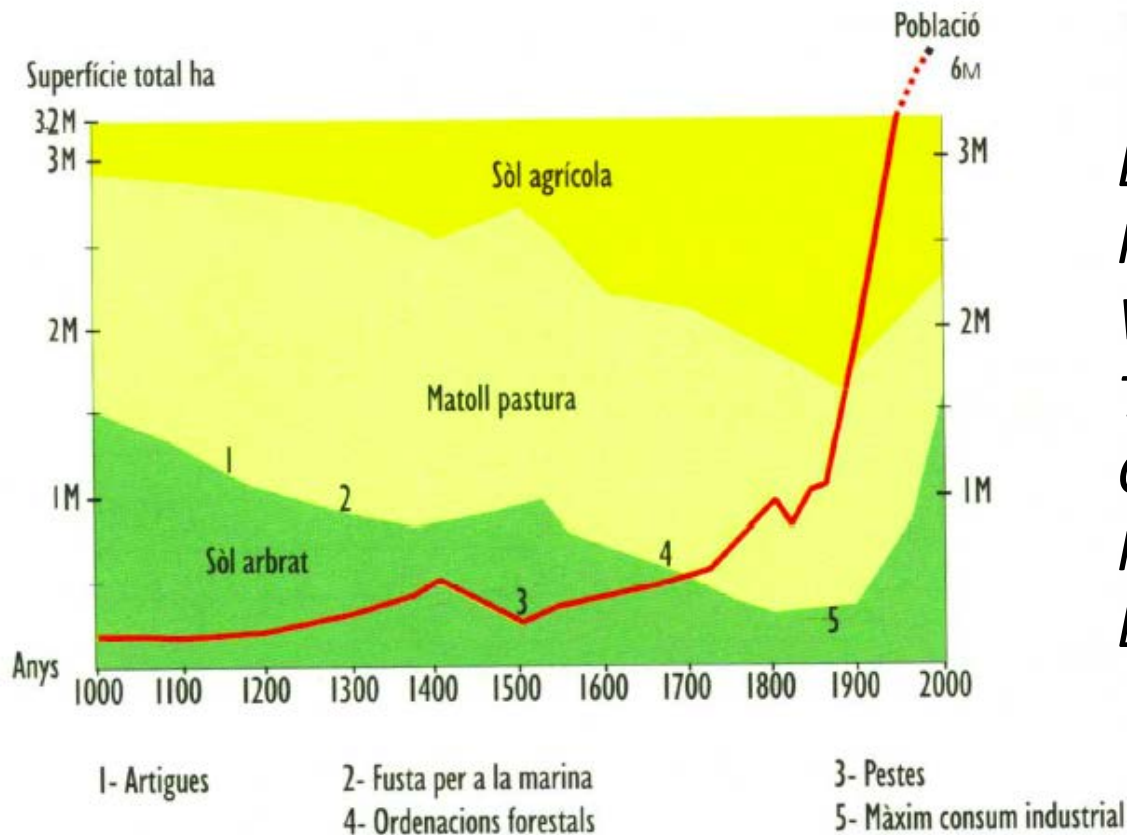
- Who pays? Where is the limit? any alternatives?

mission interministérielle Changement climatique et extension des zones sensibles aux feux de forêt, 2010





The paradox in practice: Catalunya



Low Management
Fire Risk
Water Connection
Tourisme connection
Carbon connection
Fire Combat
Lack of investment





***In a context of increased demand for forest goods,
captured value by “local” population is low!!***

*No-Management in the
North, leading to
megafires*

*Pressures to land use
change and degradation in
the South*





Despite their high values, mediterranean forests are a “problem,” and a sink of public resources

Fire-combat uses enormous budgets

+ *Protecting natural areas takes a big share of efforts*

Fragmented value chains

Lack of investments and entrepreneurship





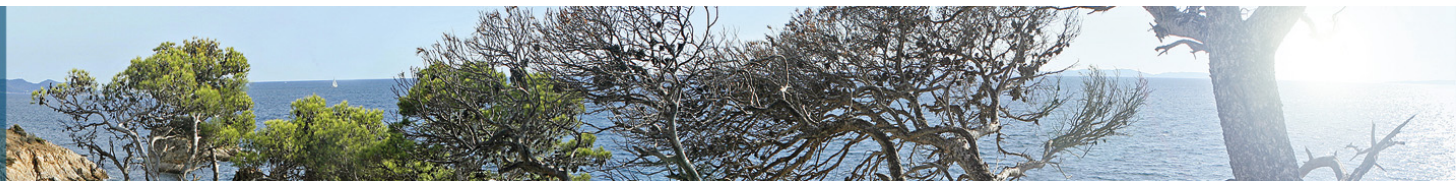
As forests become more relevant to different policy sectors, forest governance gets increasingly weaker

Influenced by multiple sectorial policies

Lack of holistic, shared vision

Int. arena an example

UNFCCC / CBD / UNFCD





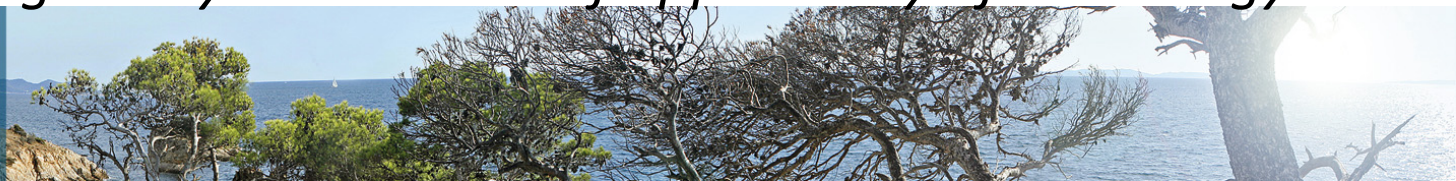
Innovating to create value

Change in mind setting: Mediterranean forests a source of richness: from trade-offs to synergies

***Generating and connecting Value chains
on Wood and NWFPs
on Ecosystem Services***

Partnerships with local actors for fuel reduction through grazing / mechanical fuel reduction/ NWFP...

***Developing added value local value chains
Wood construction with Mediterranean pines!
Using wisely the window of opportunity of bio-energy***





A new way to develop knowledge

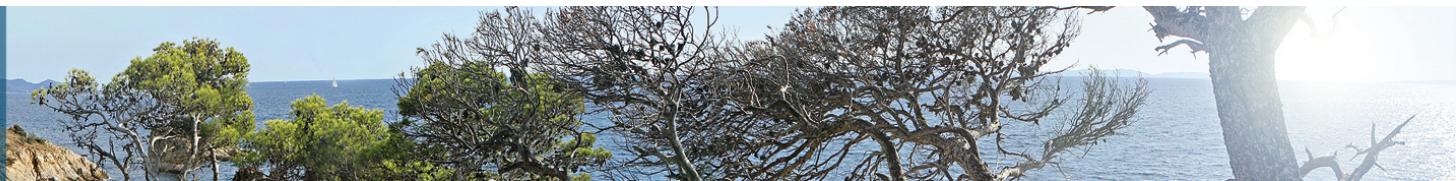
Increase the co-generation of legitimate, relevant, timely, useful, applicable knowledge.

Increasing the science-policy-practice dialogue to answer not only

a) what to do?

But also

Who? and how?, with what means?





merci!!